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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic diagram of a surge detection system according to a first embodiment of this invention.

Fig. 2 is a more detailed schematic diagram of a surge detection system of Fig. 1.

Fig. 3 is a chart showing an exemplary set of temperature measurements utilized in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention pertains to a method and apparatus for detecting surge in a compressor of a compressor-driven system. A compressor-driven refrigeration system is an example of such a system. Fig. 1 is a schematic diagram of a surge detection system according to a first embodiment of this invention. In Fig. 1, reference symbol 10 designates a basic refrigeration system. As shown in Fig. 1, the refrigeration system 10 comprises a centrifugal compressor 20, having a suction side 25 and a discharge side 30 and a compressor impeller (not shown). A discharge side conduit 35 connects discharge side 30 to a condenser 40. The compressor compresses the refrigerant and delivers the compressed gas to condenser 40. Condenser 40 includes a heat-exchange coil 45 having an inlet 50 and an outlet 55 connected to a cooling tower 60 or other cooling system that circulates a cooling fluid, such as water, through the heat exchange coil 45. The refrigerant flowing through condenser 40 exchanges heat with the cooling fluid circulating through heat-exchange coil 45 causing the compressed gas to condense to a liquid refrigerant.

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